

Claims

1. A water treatment apparatus comprising:
- an electrostatic generator for generating static electricity;
- 5 a hollow thermal insulator into which the electrostatic generator is inserted, for isolating internal and external heat transmission;
- closures for preventing water from being introduced into the hollow thermal insulator;
- a housing into which the hollow thermal insulator and the closures are inserted;
- 10 housing connectors each connected at one end to the housing and connected at the other end to a tubular object; and
- a metal casing for housing the housing and the housing connectors therein, and having a casing body and sealing caps,
- wherein at least one of the casing body and the sealing caps constituting the sheath
- 15 metal casing has at least one drain hole formed thereon for naturally discharging condensed water.
2. The water treatment apparatus as set forth in claim 1, wherein the electrostatic generator includes a pipe which has a thread formed on an outer circumferential surface
- 20 thereof and to which a first carbon cylindrical body, a zinc tube and a second carbon cylindrical body are coupled in order thereof, one side of the respective carbon cylindrical body having a comb structure formed with a plurality of water through holes and being

provided with a male thread on an outer circumferential surface thereof to be engaged with each of the closures, the other side of the respective carbon cylindrical body having an extension and being provided with a female thread on an inner circumferential surface thereof to be engaged with the pipe;

- 5 one side of the respective closure is provided with a female thread on an inner circumferential surface thereof to be engaged with any one of the carbon cylindrical bodies, and the other side of the respective closure is formed with a slant surface;

the hollow thermal insulator is provided with fine naps on the surface thereof and allows the electrostatic generator and the closures to be inserted therein; and

- 10 each of the housing connectors includes an extension at one side thereof and a fastener at the other side thereof, the extension and the fastener being integrally formed, the extension being provided with a female thread on an inner circumferential surface thereof so as to be engaged with the housing, the fastener being provided with a male thread on an outer circumferential surface thereof so as to be engaged with the tubular object.

15

3. The water treatment apparatus as set forth in claim 1 or 2, wherein the drain hole is coupled to a drain trap having a coupling element and a drain tube.